

WHAT IS CLAIMED IS:

1. A resistor substrate comprising: a resistor layer containing a powdered conductive material which is dispersed
5 in a heat-cured resin; and an electrode layer containing a powdered metal which is dispersed in a heat-cured resin, in which the resistor layer is exposed at the topmost surface of the resistor substrate, the electrode layer is provided under the resistor layer, and the resistor layer and the electrode
10 layer are supported by the substrate,

wherein the resin of the electrode layer has a thermosetting temperature lower than that of the resin of the resistor layer.

15 2. The resistor substrate according to Claim 1, wherein the powdered metal comprises powdered silver, the powdered conductive material comprises powdered carbon, and the electrode layer is covered with the resistor layer so as not to be exposed at the surface of the substrate.

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3. The resistor substrate according to Claim 1, wherein the thermosetting temperature of the resin of the resistor layer is different from that of the resin of the electrode layer by 30° C or more.

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4. The resistor substrate according to Claim 1, wherein the thermosetting temperature of the resin of the electrode layer is lower than a glass transition temperature of the

resin of the resistor layer.

5. The resistor substrate according to Claim 1, wherein the resin of the resistor layer is at least one selected from the group consisting of a thermosetting polyimide, a
5 thermosetting poly(ether ketone), and a thermosetting bismaleimide, and the resin of the electrode layer is at least one selected from the group consisting of a phenolic resin, an epoxy resin, and a melamine resin.

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6. The resistor substrate according to Claim 1, further comprising a terminal connected to the electrode layer, wherein the terminal is connected to an opposite surface of the electrode layer from that facing the resistor layer, and
15 the connection part between the electrode layer and the terminal is placed in the substrate.

7. A method for manufacturing a resistor substrate, comprising:

20 step (1) of forming a pattern of a resistor paste on a transfer sheet, the resistor paste containing a powdered conductive material which is dispersed in a first binder resin dissolved in a solvent, then removing the solvent, and forming a resistor layer by heat-curing of the first binder
25 resin;

step (2) of forming a pattern of an electrode paste on the resistor layer, the electrode paste containing a powdered metal which is dispersed in a second binder resin dissolved

in a solvent, the second binder resin being a thermosetting resin to be heat-cured at a temperature lower than a thermosetting temperature of the first binder resin;

step (3) of removing the solvent of the electrode paste,
5 followed by heat-curing of the second binder resin to form an electrode layer; and

step (4) of supporting the resistor layer and the electrode layer by the substrate after the transfer sheet is removed so that the resistor layer is exposed at the surface
10 of the substrate.

8. The method for manufacturing a resistor substrate, according to Claim 7, wherein, in step (3), the second binder resin is heat-cured at a temperature lower than a glass
15 transition temperature of the cured first binder resin contained in the resistor layer.

9. The method for manufacturing a resistor substrate, according to Claim 7, wherein the solvent dissolving the
20 first binder resin is different from that dissolving the second binder resin.

10. The method for manufacturing a resistor substrate, according to Claim 7, wherein the first binder resin is at
25 least one selected from the group consisting of a thermosetting polyimide, a thermosetting poly(ether ketone), and a thermosetting bismaleimide, and the second binder resin is at least one selected from the group consisting of a

phenolic resin, an epoxy resin, and a melamine resin.

11. The method for manufacturing a resistor substrate,
according to Claim 7, wherein the powdered metal comprises
5 powdered silver, the powdered conductive material comprises
powdered carbon, and the electrode layer is covered with the
resistor layer when the transfer sheet is removed.

12. The method for manufacturing a resistor substrate,
10 according to Claim 7, wherein the solvent dissolving the
first binder resin is at least one solvent selected from the
group consisting of methyl carbitol, ethyl carbitol, butyl
carbitol, and methyl triglyme, or a mixed solvent containing
one of the above solvents and α -terpineol, and
15 the solvent dissolving the second binder resin is at
least one solvent selected from the group consisting of
acetic acid carbitol, methyl carbitol, ethyl carbitol, butyl
carbitol, and methyl triglyme.